

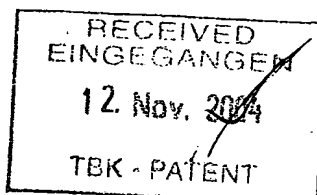
# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

## PCT

To:

TBK-Patent  
Bavariaring 4-6  
D-80336 München  
Tyskland



NOTIFICATION OF TRANSMITTAL OF  
INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)  
(PCT Rule 71.1)

Date of mailing  
(day/month/year) 10-11-2004

Applicant's or agent's file reference  
WO 32586

IMPORTANT NOTIFICATION

International application No.  
PCT/IB2002/003030

International filing date (day/month/year)  
05-08-2002

Priority date (day/month/year)

Applicant  
Nokia Corporation  
et al

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

#### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the *PCT Applicant's Guide*.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed invention is patentable or not" (see Also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

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## PATENT COOPERATION TREATY

## PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference WO 32586	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/IB2002/003030	International filing date (day/month/year) 05-08-2002	Priority date (day/month/year) -
International Patent Classification (IPC) or national classification and IPC H04Q 7/38		
Applicant Nokia Corporation et al		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 4 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
  - ☒ (sent to the applicant and to the International Bureau) a total of 4 sheets, as follows:
    - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

Date of submission of the demand  05-03-2004	Date of completion of this report  04-11-2004
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer  Elisabet Åselius/MN Telephone No. +46 8 782 25 00

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/IB2002/003030

**Box No. I**      **Basis of the report**

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1 - 21 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- pages\* 1 - 4 \_\_\_\_\_ received by this Authority on 28-05-2004
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- pages 1 - 4 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/IB2002/003030

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	<u>1-19</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-19</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-19</u>	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

The claimed invention relates to a method of carrying an application level message encapsulated inside a signalling message of an access network. This is a way of speeding up the registration procedure in a cellular network.

Documents cited in the International Search Report:

D1: WO 02056618 A  
D2: WO 0044191 A  
D3: US 2001053145 A1

D1 reveal methods of carrying an application level message encapsulated inside a signalling message of an access network. An application level message is received from a sender application to an access network signalling process, (p.25 lines 22-26). The message is adapted and encapsulated in an access network signalling message, (p.25 line 27-p.26 line 2). The encapsulated application level message is delivered to a receiver application process by transmission of the signalling message, (p.27 claim 48).

D2 discloses how application level message contents are encapsulated in signalling messages (p.8 line 23-p.9 line 3; p.9 lines 9-12), in order to speed up connection setup times during handover.

D3 deals with interworking different transport technologies in a communication system including an application layer and a transport layer.

However, the subject-matter of the independent claims 1 and 17 is neither anticipated by the cited prior art nor rendered obvious thereby, since none of the cited documents reveals an application level message indicating under which conditions the signalling message should be delivered. .../...

**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of: **BOX V**

Thus, the claimed invention fulfils the requirements of novelty, inventive step and industrial applicability.

28-05-2004

10/520430

DT15 Rec'd PCT/PTO 06 JAN 2005

Enclosure of May 26, 2004

PCT-Patent Application No.: PCT/IB02/03030

Nokia Corporation et al.

Our ref.: WO 32586

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## CLAIMS

- 
- 10 1. A method of carrying an application level message  
encapsulated inside a signaling message of an access  
network, said method comprising the steps of:
- receiving (1) an application level message from a  
sender application process to an access network signaling  
15 process;
- adapting (3) said application level message and  
encapsulating it in a signaling message of an access  
network; and
- delivering (1, 3, 4) said encapsulated application  
20 level message to a receiver application process by  
transmitting said signaling message, wherein said  
encapsulated application level message is transparent to  
the means of said access network transmitting said  
signaling message, and
- 25 wherein said application level message includes an  
indication under which conditions the signaling message  
should be delivered.
2. A method according to claim 1, wherein said sender  
30 application process is performed in a mobile terminal being  
attached to said access network.
3. A method according to claim 1, wherein said sender  
application process is performed in a server providing a  
35 corresponding application.

4. A method according to claim 1, wherein said indication comprises an address of the application receiver process being one of the group comprising a logical name, an IP address, and a port number.

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5. A method according to claim 1 or 4, wherein said indication comprises another indication whether said signaling message should be delivered even if the Quality-of-Service changes.

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6. A method according to claim 1, wherein said method is implemented in a call establishment procedure for Voice over the Internet Protocol (VoIP).

15 7. A method according to claim 1, wherein said encapsulated application level message is included in an activation request within a Packet Data Protocol (PDP) context signaling.

20 8. A method according to claim 3, wherein said application server is one of the group of proxy call state control function means (P-CSCF), push proxy server means, and instant message server means.

25 9. A method according to claim 7, wherein said packet data protocol (PDP) context signaling is embedded into one of the group of a Session Initiation Protocol (SIP) signaling, a Resource Reservation Protocol (RSVP) signaling, and a Point to Point Protocol (PPP) signaling.

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10. A method according to claim 7, wherein said encapsulated application level message includes a complete Session Initiation Protocol (SIP) message.

11. A method according to claim 10, wherein a Gateway GPRS Support Node (GGSN) creates a Internet Protocol/User Datagram Protocol header and forwards said complete Session Initiation Protocol (SIP) message to a Session Initiation Protocol (SIP) proxy means.

12. A method according to claim 11, wherein said header is created by using information sent in an optional application level message information element.

13. A method according to claim 11, wherein said header is created by using information coming from said Packet Data Protocol (PDP) context signaling.

14. A method according to claim 11, wherein said header is created by using information coming from a configuration process.

15. A method according to claim 7, wherein

said encapsulated application level message indicates that a Gateway GPRS Support Node (GGSN) shall send a context response message only when a response of said receiver application process is received, as a reaction to which said Gateway GPRS Support Node (GGSN) starts a timer to wait for answer; and wherein

a reply before the expiry of said timer is copied as a new encapsulated application level message in said context response message, and in case of no reply before the expiry of said timer an indication that said receiver application process does not answer is copied as a new encapsulated application level message in said context response message.

16. A method according to claim 7, wherein

said encapsulated application level message indicates that a Gateway GPRS Support Node (GGSN) shall send a



context response message immediately, as a reaction to which said Gateway GPRS Support Node (GGSN) sends a context response message immediately, whereas a response of said receiver application process is returned to said sender application process in a non-encapsulated manner as normal traffic.

17. A system adapted to perform a transmission of an application level message encapsulated inside a signaling message of an access network, comprising:

receiving means adapted to receive an application level message from a sender application process to an access network signaling process;

adapting means for encapsulating said application level message in a signaling message of an access network; and

delivering means adapted to deliver said encapsulated application level message to a receiver application processing means, and

wherein said application level message includes an indication under which conditions the signaling message should be delivered.

18. A system according to claim 17, further comprising a server adapted to perform said sender application process.

19. A system according to claim 18, wherein said server is one of the group of proxy call state control function means (P-CSCF), push proxy server means, and instant message server means.